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	m s
Bangor clock fast of Cambridge by 2338, lamp W. (25 wires) ...	9 42·79
— — — 2691, — — ...	9 43·21
Mean, lamp W.	9 43·00
Meaning lamp E. with lamp W. frees collimation	9 43·17

	m s
Hence Bangor clock slow of Halifax	20 26·435
— — fast of Cambridge	9 43·170
Halifax, east of Cambridge	30 9·605

By direct observations on B.A.C. 1287 and 1736, Halifax Naval Yard Observatory is east of Cambridge (Harvard Observatory), $30^{m}\ 9^{s}{\cdot}625$. By indirect observations, $30^{m}\ 9^{s}{\cdot}605$. Taken, $30^{m}\ 9^{s}{\cdot}62$.

The transit instrument was 94·7 feet west of Cambridge east transit, that to which the longitude of the observatory is referred.

Therefore Halifax Naval Yard Observatory is $30^{m}\ 9^{s}{\cdot}54$ east of Cambridge (Harvard Observatory, east transit).

At this point Professor Bond was taken dangerously ill, and we were unable in consequence to correct again with Cambridge. Observations were made on the 17th, 19th, 22d, and 23d December, between Halifax and Bangor. The weather was generally unfavourable, and also the state of the telegraph; however, the observations tended to confirm the above result, which cannot be far from the truth.

The mean distance determined by Admiral Owen during 1841, 1844,* and 1845, with chronometers, in which I assisted, was $30^{m}\ 9^{s}{\cdot}9$.

	h m s
Harvard East Transit being taken West of Greenwich	4 44 30·54
Halifax, east of Harvard (east transit)	30 9·54
Halifax Observatory west of Greenwich	4 14 21

P. Frederick Shortland,
Commander.

Elements of Comet I., 1855. By M. Winnecke.†

T	1855, Feb. 5, 76590.				
	°	′	″		
π	226	33	4·6	Equinox 1855, Jan. 0.	
☊	189	40	8·6		
i	51	12	41·2		
Log q ...	0·341478				

Motion retrograde.

These elements are calculated from the Moscow observation of April 19, and the Berlin observations of May 6 and May 18.

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* In the determination of the longitude of Harvard Observatory the greatest weight has been given to the result of numerous chronometers run between Liverpool Observatory and that at Harvard, by means of the Cunard steamers, in which Liverpool Observatory is taken as $12^{m}\ 0^{s}{\cdot}5$ west of Greenwich.

† Discovered by M. Schweizer on the 11th of April; see p. 174, where for Comet II., read Comet I.—Editor.

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Discovery of a New Planet. By M. Luther.

Mr. Hind has received a letter from M. Luther, dated October 8, announcing his discovery of a new planet at Bilk, on the 5th of the same month. It was situate in 2° 25′ of right ascension, and 0° 52′ of north declination, and resembled a star of the tenth magnitude. On the following evening he obtained this observation of it:—

1855.	M.T. Berlin. h m s	R.A. ° ′ ″	N. Decl. ° ′ ″
Oct. 6.	8 44 14·4	2 12 21·4	+0 49 18·2

This planet has received the designation of *Fides*, with the symbol of a cross.

On certain Anomalies presented by the Binary Star 70 Ophiuchi.

By Capt. W. S. Jacob, Madras Astronomer.

The pair of stars designated as 70 *Ophiuchi* have been long recognised by astronomers as a binary system, but the authorities are not as yet agreed as to the exact orbit, although only about 20° are wanting to complete the whole ellipse since they were first measured by Sir W. Herschel in 1779.

Many hypothetical orbits have been computed, all of which fail at certain points in representing the observed quantities as closely as might be expected: thus, in some that have lately appeared, while the angles show a tolerably near agreement with observation, the distances are entirely thrown out, the maximum being represented as yet future; whereas, observation indicates a steady decrease in distance since 1848 or 1850, the quantity now amounting to 0″·50; any attempt, however, to alter the elements so as to bring the distances into better agreement, throws a considerable increase of error on the angles. There is, further, this remarkable point to be noticed, viz., that even in those orbits in which the distances are neglected, and the angles made to agree as closely as possible, the errors assume somewhat of a periodical or epicyclical form, continuing to have the same sign over a considerable extent of the orbit, and this is still more strongly marked when both angles and distances are taken into account. Thus, in an orbit which I have lately computed with a period of 93 years, the errors are + from 1820 to 1823, — with one exception from 1823 to 1830; from 1830 to 1832 there is a turning point, where the errors alternate; and from 1833 to 1842, they are again +; and from 1846 to the present time they are for the most part —.

Now such systematic errors can hardly be casual; they must

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